COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-3 MW-4	**Units:**	ug/L
Lab Code:	K2503312-003	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
2-Methylnaphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	**0.046**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	37-107	05/17/05	Acceptable
Fluoranthene-d10	102	18-137	05/17/05	Acceptable
Terphenyl-d14	94	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-4 MW-5	**Units:**	ug/L
Lab Code:	K2503312-004	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**5.3**	D	0.20	10	05/09/05	05/18/05	KWG0507289	
2-Methylnaphthalene	**1.8**	D	0.20	10	05/09/05	05/18/05	KWG0507289	
Acenaphthylene	ND	Ui	0.71	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	**2.1**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	**0.66**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	**3.4**		0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	**7.3**		0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	**1.0**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	**2.2**		0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	**2.0**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	**0.099**		0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	**0.15**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	**0.021**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	**0.021**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	**0.028**		0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	**0.022**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	**0.023**		0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	100	37-107	05/17/05	Acceptable
Fluoranthene-d10	90	18-137	05/17/05	Acceptable
Terphenyl-d14	61	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-5 MW-3	**Units:**	ug/L
Lab Code:	K2503312-005	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.082**		0.020	1	05/09/05	05/17/05	KWG0507289	
2-Methylnaphthalene	**0.22**		0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	**0.078**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	**0.021**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	**0.054**		0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	**0.068**		0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	**0.021**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	**0.058**		0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	**0.060**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	37-107	05/17/05	Acceptable
Fluoranthene-d10	84	18-137	05/17/05	Acceptable
Terphenyl-d14	83	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-6 MW-2	**Units:**	ug/L
Lab Code:	K2503312-006	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
2-Methylnaphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	**0.037**		0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	**0.045**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	**0.022**		0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	**0.026**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	**0.030**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	**0.022**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	**0.042**		0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	**0.053**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	**0.059**		0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	37-107	05/17/05	Acceptable
Fluoranthene-d10	88	18-137	05/17/05	Acceptable
Terphenyl-d14	83	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-7 MW-1	**Units:**	ug/L
Lab Code:	K2503312-007	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**210**	D	0.99	50	05/09/05	05/18/05	KWG0507289	
2-Methylnaphthalene	**56**	D	0.99	50	05/09/05	05/18/05	KWG0507289	
Acenaphthylene	ND	Ui	0.083	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	**0.34**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	**0.075**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	**0.25**		0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	**0.34**		0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	**0.061**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	**0.38**		0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	**0.69**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	**0.11**		0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	**0.14**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	**0.036**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	**0.038**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	**0.042**		0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	94	37-107	05/17/05	Acceptable
Fluoranthene-d10	87	18-137	05/17/05	Acceptable
Terphenyl-d14	82	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Water	**Date Received:**	05/07/2005

Polynuclear Aromatic Hydrocarbons

Sample Name:	BM-050505-8 MW-1 (DUP)	**Units:**	ug/L
Lab Code:	K2503312-008	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**190**	D	0.98	50	05/09/05	05/18/05	KWG0507289	
2-Methylnaphthalene	**49**	D	0.98	50	05/09/05	05/18/05	KWG0507289	
Acenaphthylene	ND	Ui	0.072	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	**0.31**		0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	**0.060**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	**0.19**		0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	**0.32**		0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	**0.061**		0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	**0.34**		0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	**0.64**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	**0.081**		0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	**0.11**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	**0.021**		0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	**0.020**		0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	37-107	05/17/05	Acceptable
Fluoranthene-d10	85	18-137	05/17/05	Acceptable
Terphenyl-d14	65	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0507289-3	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
2-Methylnaphthalene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Acenaphthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenzofuran	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluorene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Phenanthrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benz(a)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Chrysene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(b)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(k)fluoranthene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(a)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Dibenz(a,h)anthracene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	
Benzo(g,h,i)perylene	ND	U	0.020	1	05/09/05	05/17/05	KWG0507289	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	37-107	05/17/05	Acceptable
Fluoranthene-d10	87	18-137	05/17/05	Acceptable
Terphenyl-d14	77	18-153	05/17/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: BRIX Maritime-Portland, OR/990056-01
Sample Matrix: Water

Service Request: K2503312

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3535
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
BM-050505-1	K2503312-001	82	90	67
BM-050505-2	K2503312-002	81	90	69
BM-050505-3	K2503312-003	89	102	94
BM-050505-4	K2503312-004	100	90	61
BM-050505-5	K2503312-005	79	84	83
BM-050505-6	K2503312-006	79	88	83
BM-050505-7	K2503312-007	94	87	82
BM-050505-8	K2503312-008	78	85	65
Method Blank	KWG0507289-3	79	87	77
Lab Control Sample	KWG0507289-1	85	93	78
Duplicate Lab Control Sample	KWG0507289-2	83	92	73

Surrogate Recovery Control Limits (%)

Sur1 = Fluorene-d10	37-107
Sur2 = Fluoranthene-d10	18-137
Sur3 = Terphenyl-d14	18-153

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503312
Project:	BRIX Maritime-Portland, OR/990056-01	**Date Extracted:**	05/09/2005
Sample Matrix:	Water	**Date Analyzed:**	05/17/2005

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3535	**Units:**	ug/L
Analysis Method:	8270C SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0507289

	Lab Control Sample KWG0507289-1 Lab Control Spike			Duplicate Lab Control Sample KWG0507289-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	2.52	2.50	101	2.66	2.50	106	41-115	6	30
2-Methylnaphthalene	2.33	2.50	93	2.47	2.50	99	33-123	6	30
Acenaphthylene	2.62	2.50	105	2.74	2.50	110	44-122	4	30
Acenaphthene	2.61	2.50	105	2.72	2.50	109	41-123	4	30
Dibenzofuran	2.60	2.50	104	2.71	2.50	108	16-146	4	30
Fluorene	2.71	2.50	108	2.81	2.50	112	44-128	4	30
Phenanthrene	2.68	2.50	107	2.77	2.50	111	45-127	3	30
Anthracene	2.76	2.50	110	2.82	2.50	113	40-126	2	30
Fluoranthene	2.98	2.50	119	3.10	2.50	124	41-141	4	30
Pyrene	2.72	2.50	109	2.91	2.50	117	34-152	7	30
Benz(a)anthracene	2.67	2.50	107	2.82	2.50	113	46-132	5	30
Chrysene	2.66	2.50	107	2.83	2.50	113	46-136	6	30
Benzo(b)fluoranthene	2.76	2.50	110	2.92	2.50	117	54-137	6	30
Benzo(k)fluoranthene	2.76	2.50	110	2.99	2.50	120	54-141	8	30
Benzo(a)pyrene	2.80	2.50	112	2.99	2.50	119	49-133	6	30
Indeno(1,2,3-cd)pyrene	2.66	2.50	106	2.82	2.50	113	41-141	6	30
Dibenz(a,h)anthracene	2.82	2.50	113	3.01	2.50	120	39-143	6	30
Benzo(g,h,i)perylene	2.65	2.50	106	2.82	2.50	113	46-133	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

May 19, 2005 Service Request No: K2503314

John Renda
Anchor Environmental
6650 SW Redwood Lane Suite 110
Portland, OR 97224

RE: BRIX-Maritime-Portland /990056-01

Dear John:

Enclosed are the results of the sample(s) submitted to our laboratory on May 7, 2005. For your reference, these analyses have been assigned our service request number K2503314.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281.

Respectfully submitted,

Columbia Analytical Services, Inc.

Abbie Spielman
Project Chemist

AS/jeb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Anchor Environmental	**Service Request No.:**	K2503314
Project:	Brix Maritime	**Date Received:**	5/7/05
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Five soil samples were received for analysis at Columbia Analytical Services on 5/7/05. No discrepancies were noted upon initial sample inspection. The samples were received in good condition and consistent with the accompanying chain of custody form. Changes to analyses were authorized via phone between 5/7 and 5/12/05. Additional analyses (silica gel clean-ups) were authorized via phone on 5/19/05. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Diesel Range and Oil Range Organics by NW-TPHDx EPA Method 8015B

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

No anomalies associated with the analysis of these samples were observed.

Approved by _____ Date 6/3/05

00005

Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

SR#: K2503314

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 2 OF 2 COC #

00007

PROJECT NAME BRIX MARITIME - PORTLAND, OR
PROJECT NUMBER
PROJECT MANAGER JOHN RENDA
COMPANY/ADDRESS ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW REDWOOD LANE, STE 110
CITY/STATE/ZIP PORTLAND, OR 97224
E-MAIL ADDRESS JRENDA@ANCHORENV.COM
PHONE # 503-670-1108 x12 FAX# 503-670-1128
SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ 8021☐ BTEX☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors ☑ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ .506☐	NWTPH-DX				REMARKS
TF-1-N	5-5-05	1400		Soil	1						X									X				
TF-2-S	5-5-05	1420		↓	1																			
TF-2-E	5-5-05	1440		↓	1																			
TF-2-W	5-5-05	1450		↓	1																			
TF-2-Com	5-5-05	1500		↓	1						X									X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

✓ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # ______

Bill To: ______

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 Day

✓ Standard (10-15 working days)

___ Provide FAX Results

______ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI (NORTHWEST circled) OTHER: ______ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly R. Titkemeier Date/Time: 5-6-05 / 0830	Signature: A. [illegible] Date/Time: 5/6/05 1700	Signature Date/Time	Signature Date/Time
Printed Name: Kelly R. Titkemeier Firm: Anchor Env	Printed Name Firm: CAS	Printed Name Firm	Printed Name Firm

Columbia Analytical Services Inc. PC AS
Cooler Receipt and Preservation Form

Project/Client Anchor Env. Work Order K250 3314

Cooler received on 5-6-05 and opened on 5-6-05 by BW

1.	Were custody seals on outside of coolers?				(Y)	N
	If yes, how many and where? 2 Front					
2.	Were custody seals intact?				(Y)	N
3.	Were signature and date present on the custody seals?				(Y)	N
4.	Is the shipper's airbill available and filed? If no, record airbill number: CAS courier				Y	N
5.	COC#					
	Temperature of cooler(s) upon receipt: (°C)	2.3	-0.9	1.3		
	Temperature Blank: (°C)	0.4	3.8	2.0		
	Were samples hand delivered on the same day as collection?				~~Y~~	~~N~~
6.	Were custody papers properly filled out (ink, signed, etc.)?				(Y)	N
7.	Type of packing material present inserts, ice					
8.	**Did all bottles arrive in good condition (unbroken)?**				(Y)	N
9.	Were all bottle labels complete (i.e analysis, preservation, etc.)?				(Y)	N
10.	Did all bottle labels and tags agree with custody papers?				(Y)	N
11.	**Were the correct types of bottles used for the tests indicated?**				(Y)	N
12.	Were all of the preserved bottles received at the lab with the appropriate pH?				(Y)	N
13.	Were VOA vials checked for absence of air bubbles, and if present, noted below?				(Y)	N
14.	Did the bottles originate from CAS/K or a branch laboratory?				(Y)	N
15.	**Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**				~~Y~~	~~N~~
16.	Was C12/Res negative?				(Y)	N

Explain any discrepancies: 2 sets of trips Rec'd 1 set "trip1" 1 set "Trip2"

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

00008

Total Solids

00009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portla/990056-01		
Sample Matrix:	Soil		

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
TF-1-N	K2503314-001	05/05/2005	05/07/2005	05/09/2005	90.8	
TF-2-COM	K2503314-005	05/05/2005	05/07/2005	05/09/2005	75.0	

00010

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portla/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005
		Date Analyzed:	05/09/2005

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
TF-1-N	K2503314-001	90.8	91.8	91.3	1	

00011

NWTPH-Dx

00012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Diesel and Residual Range Organics

Sample Name:	TF-1-N	**Units:**	mg/Kg
Lab Code:	K2503314-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	23	1	05/18/05	05/18/05	KWG0507809	
Residual Range Organics (RRO)	**140**	O	91	1	05/18/05	05/18/05	KWG0507809	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	82	50-150	05/18/05	Acceptable
n-Triacontane	91	50-150	05/18/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Diesel and Residual Range Organics

Sample Name:	TF-2-COM	**Units:**	mg/Kg
Lab Code:	K2503314-005	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	140	Z	28	1	05/18/05	05/18/05	KWG0507809	
Residual Range Organics (RRO)	440	Z	110	1	05/18/05	05/18/05	KWG0507809	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	144	50-150	05/18/05	Acceptable
n-Triacontane	99	50-150	05/18/05	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0507809-5	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	21	1	05/18/05	05/18/05	KWG0507809	
Residual Range Organics (RRO)	ND	U	84	1	05/18/05	05/18/05	KWG0507809	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	83	50-150	05/18/05	Acceptable
n-Triacontane	92	50-150	05/18/05	Acceptable

Comments:

00015

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: BRIX-Maritime-Portland, OR/990056-01
Sample Matrix: Soil

Service Request: K2503314

Surrogate Recovery Summary
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: NWTPH-Dx

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
TF-1-N	K2503314-001	82	91
TF-2-COM	K2503314-005	144	99
Batch QCDUP	KWG0507809-2	82	95
Method Blank	KWG0507809-5	83	92
Batch QC	K2503321-007	86	101
Lab Control Sample	KWG0507809-3	86	93

Surrogate Recovery Control Limits (%)

Sur1 =	o-Terphenyl	50-150
Sur2 =	n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

00016

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Extracted:**	05/18/2005
Sample Matrix:	Sediment	**Date Analyzed:**	05/18/2005

Duplicate Sample Summary
Diesel and Residual Range Organics

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K2503321-007	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx	**Extraction Lot:**	KWG0507809

Analyte Name	MRL	Sample Result	Batch QCDUP KWG0507809-2 Duplicate Sample Result	Average	Relative Percent Difference	RPD Limit
Diesel Range Organics (DRO)	41	96	94	95	1	40
Residual Range Organics (RRO)	170	460	450	460	1	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Extracted:**	05/18/2005
Sample Matrix:	Sediment	**Date Analyzed:**	05/18/2005

Lab Control Spike Summary
Diesel and Residual Range Organics

Extraction Method:	EPA 3550B	**Units:**	mg/Kg
Analysis Method:	NWTPH-Dx	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0507809

	Lab Control Sample KWG0507809-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diesel Range Organics (DRO)	238	267	89	62-159
Residual Range Organics (RRO)	119	133	89	53-143

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00018

NWTPH-Dx
with silica gel clean up

00019

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name:	TF-1-N	**Units:**	mg/Kg
Lab Code:	K2503314-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	23	1	05/18/05	05/20/05	KWG0508148	
Residual Range Organics (RRO)	97	O	91	1	05/18/05	05/20/05	KWG0508148	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	108	50-150	05/20/05	Acceptable
n-Triacontane	124	50-150	05/20/05	Acceptable

Comments:

00020

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name:	TF-2-COM	**Units:**	mg/Kg
Lab Code:	K2503314-005	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	28	1	05/18/05	05/20/05	KWG0508148	
Residual Range Organics (RRO)	ND	U	110	1	05/18/05	05/20/05	KWG0508148	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	115	50-150	05/20/05	Acceptable
n-Triacontane	133	50-150	05/20/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0508148-2	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	21	1	05/18/05	05/20/05	KWG0508148	
Residual Range Organics (RRO)	ND	U	84	1	05/18/05	05/20/05	KWG0508148	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	99	50-150	05/20/05	Acceptable
n-Triacontane	113	50-150	05/20/05	Acceptable

Comments:

00022

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: BRIX-Maritime-Portland, OR/990056-01
Sample Matrix: Soil

Service Request: K2503314

Surrogate Recovery Summary
Diesel and Residual Range Organics - Silica Gel Treated

Extraction Method: EPA 3550B
Analysis Method: NWTPH-Dx

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
TF-1-N	K2503314-001	108	124
TF-2-COM	K2503314-005	115	133
Method Blank	KWG0508148-2	99	113
Lab Control Sample	KWG0508148-1	101	114

Surrogate Recovery Control Limits (%)

Sur1 = o-Terphenyl	50-150
Sur2 = n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

00023

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Extracted:**	05/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	05/20/2005

Lab Control Spike Summary
Diesel and Residual Range Organics - Silica Gel Treated

Extraction Method:	EPA 3550B	**Units:**	mg/Kg
Analysis Method:	NWTPH-Dx	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0508148

	Lab Control Sample KWG0508148-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diesel Range Organics (DRO)	283	267	106	62-159
Residual Range Organics (RRO)	149	133	112	53-143

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00024

Polychlorinated Biphenyls
PCB's
EPA Method 8082

00025

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Polychlorinated Biphenyls (PCBs)

Sample Name:	TF-1-N	**Units:**	mg/Kg
Lab Code:	K2503314-001	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1221	ND	U	0.20	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1232	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1242	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1248	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1254	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1260	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	102	20-161	05/13/05	Acceptable

Comments:

00026

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	05/05/2005
Sample Matrix:	Soil	**Date Received:**	05/07/2005

Polychlorinated Biphenyls (PCBs)

Sample Name:	TF-2-COM	**Units:**	mg/Kg
Lab Code:	K2503314-005	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1221	ND	U	0.20	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1232	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1242	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1248	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1254	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1260	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	82	20-161	05/13/05	Acceptable

Comments:

00027

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0507416-4	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1221	ND	U	0.10	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1232	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1242	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1248	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1254	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	
Aroclor 1260	ND	U	0.050	1	05/10/05	05/13/05	KWG0507416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	100	20-161	05/13/05	Acceptable

Comments:

00028

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: BRIX-Maritime-Portland, OR/990056-01
Sample Matrix: Soil

Service Request: K2503314

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3540C
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
TF-1-N	K2503314-001	102
TF-2-COM	K2503314-005	82
Method Blank	KWG0507416-4	100
Batch QC	K2503256-007	94
Batch QCMS	KWG0507416-1	95
Batch QCDMS	KWG0507416-2	93
Lab Control Sample	KWG0507416-3	95

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl	20-161

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Extracted:**	05/10/2005
Sample Matrix:	Soil	**Date Analyzed:**	05/13/2005

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K2503256-007	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0507416

Analyte Name	Sample Result	Batch QCMS KWG0507416-1 Matrix Spike			Batch QCDMS KWG0507416-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	1.03	0.993	104	1.02	0.993	102	33-155	2	50
Aroclor 1260	ND	1.04	0.993	105	1.02	0.993	103	36-161	2	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00030

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K2503314
Project:	BRIX-Maritime-Portland, OR/990056-01	**Date Extracted:**	05/10/2005
Sample Matrix:	Soil	**Date Analyzed:**	05/13/2005

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3540C	**Units:**	mg/Kg
Analysis Method:	8082	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0507416

	Lab Control Sample KWG0507416-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	1.03	1.00	103	43-141
Aroclor 1260	1.05	1.00	105	50-145

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00031

Appendix C
Transformer Sampling Work Plan

ANCHOR ENVIRONMENTAL, L.L.C.

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Phone 503.670.1108
Fax 503.670.1128

May 12, 2005
990056-01

Mr. Dana Bayuk, R.G.
Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Remedial Investigation Work Plan
Brix Maritime Company
Portland, Oregon
ESCI No. 2364

Dear Dana:

In DEQ's April 20, 2005 comment letter on Anchor's February 2005 Remedial Investigation Work Plan, DEQ requested that shallow soil sampling be conducted around the two pad-mounted transformers at the BRIX site. Anchor collected shallow soil samples around the two transformers during the regularly scheduled groundwater monitoring event on May 5, 2005. Below is a description of the shallow soil sampling and of the current status of the samples.

The first transformer (TF-1) is on a concrete slab near the northern corner of the maintenance building. TF-1 is surrounded on three sides by asphalt and on one side by gravel (Photos 1 and 2). A soil sample (TF-1-N) was collected from the northeast side of the transformer, immediately below the gravel to a depth of less than four inches below the top of soil with a decontaminated stainless steel spoon. This sample was submitted to Columbia Analytical Services (CAS) for analysis of total petroleum hydrocarbons (TPH) by method NWTPH-Dx and polychlorinated biphenols (PCBs) by EPA method 8081. This sample is currently on hold at the laboratory, pending DEQ approval of this workplan.

The second transformer (TF-2) is on a raised concrete slab near the southern corner of the office bulding. TF-2 is bordered on the northeast side by concrete, on the southeast and southwest sides by bark dust, and on the northwest side by gravel (Photos 3 and 4). Soil samples were collected with decontaminated stainless steel spoons from the southeast (TF-2-E), southwest (TF-2-S), and northwest (TF-2-W) sides from immediately below the gravel or bark dust to depths of less than four inches below the top of soil. Additionally, a composite sample (TF-2-COM) of the three soil samples was collected using a decontaminated stainless steel

spoon and was homogenized in a stainless steel bowl before being transferred into the sample jar. The composite sample was submitted to CAS for analysis of TPH and PCBs. The individual samples (TF-2-E, TF-2-S, and TF-2-W) will be analyzed only if TPH and/or PCBs are detected in the composite sample. All samples are currently on hold at the laboratory, pending DEQ approval of this workplan.

The laboratory holding time for THP-Dx and PCBs is 14 days. DEQ approval of this work plan would be required by end of the day on Wednesday, May 18, 2005 to ensure that the samples could be run within holding time.

Sincerely,

John J. Renda, RG
Anchor Environmental, L.L.C.

John E. Edwards, RG, CEG
Anchor Environmental, L.L.C.

Cc: David Templeton, Anchor Environmental, Inc., Seattle
Frank Williamson, Foss

Photo 1: Transformer TF-1, facing northeast.

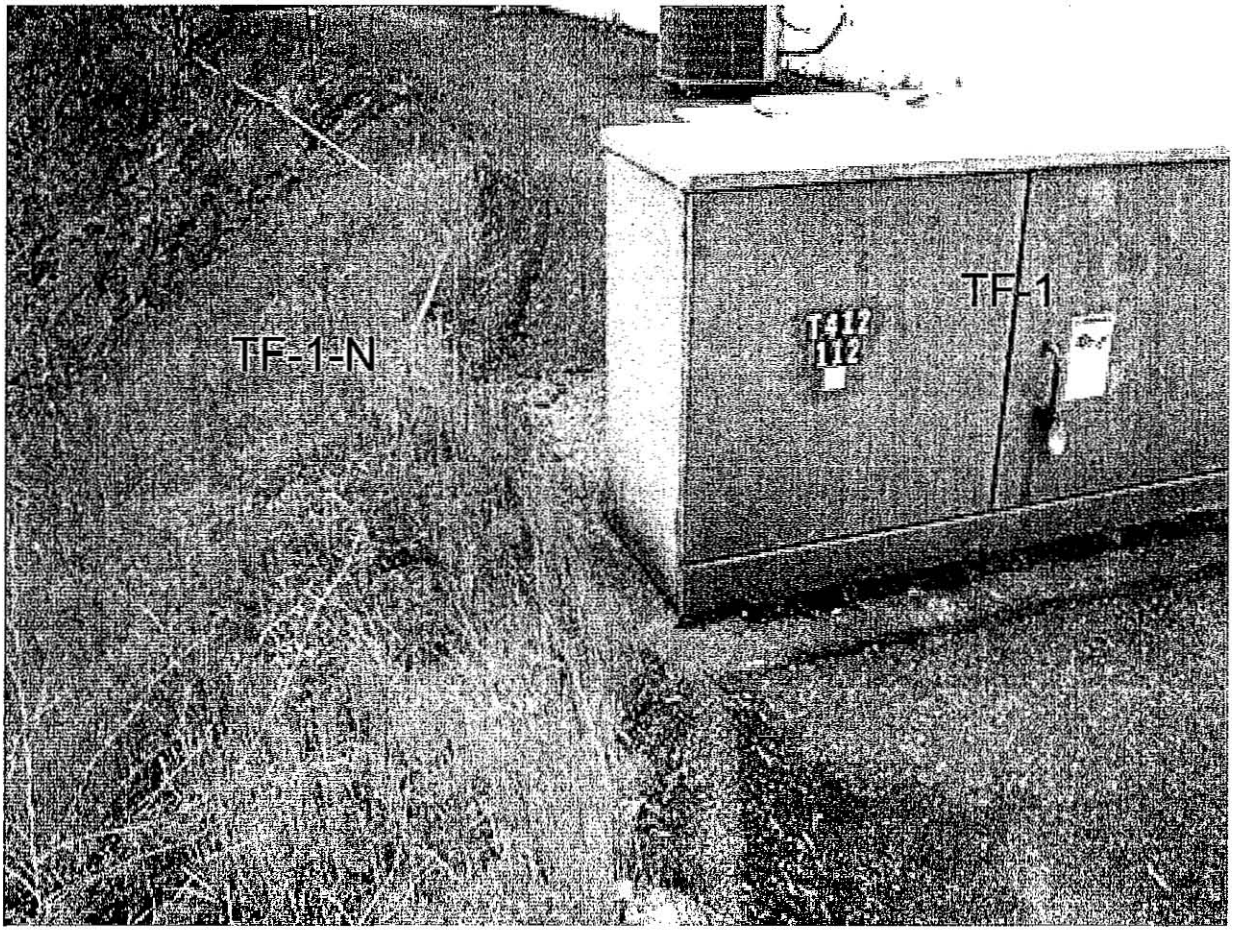

Photo 2: Transformer TF-1, facing south.

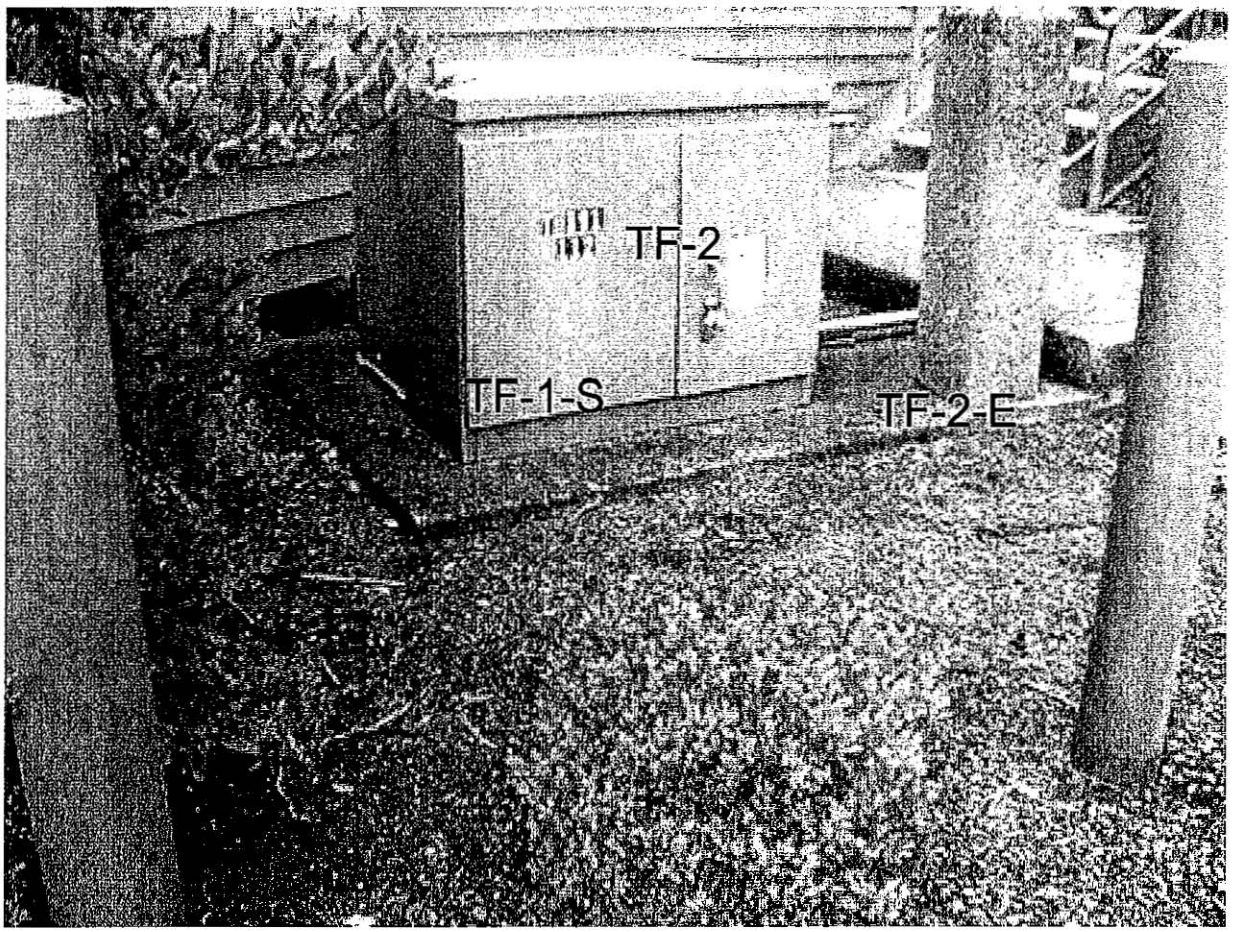

Photo 3: Transformer TF-2, facing north.

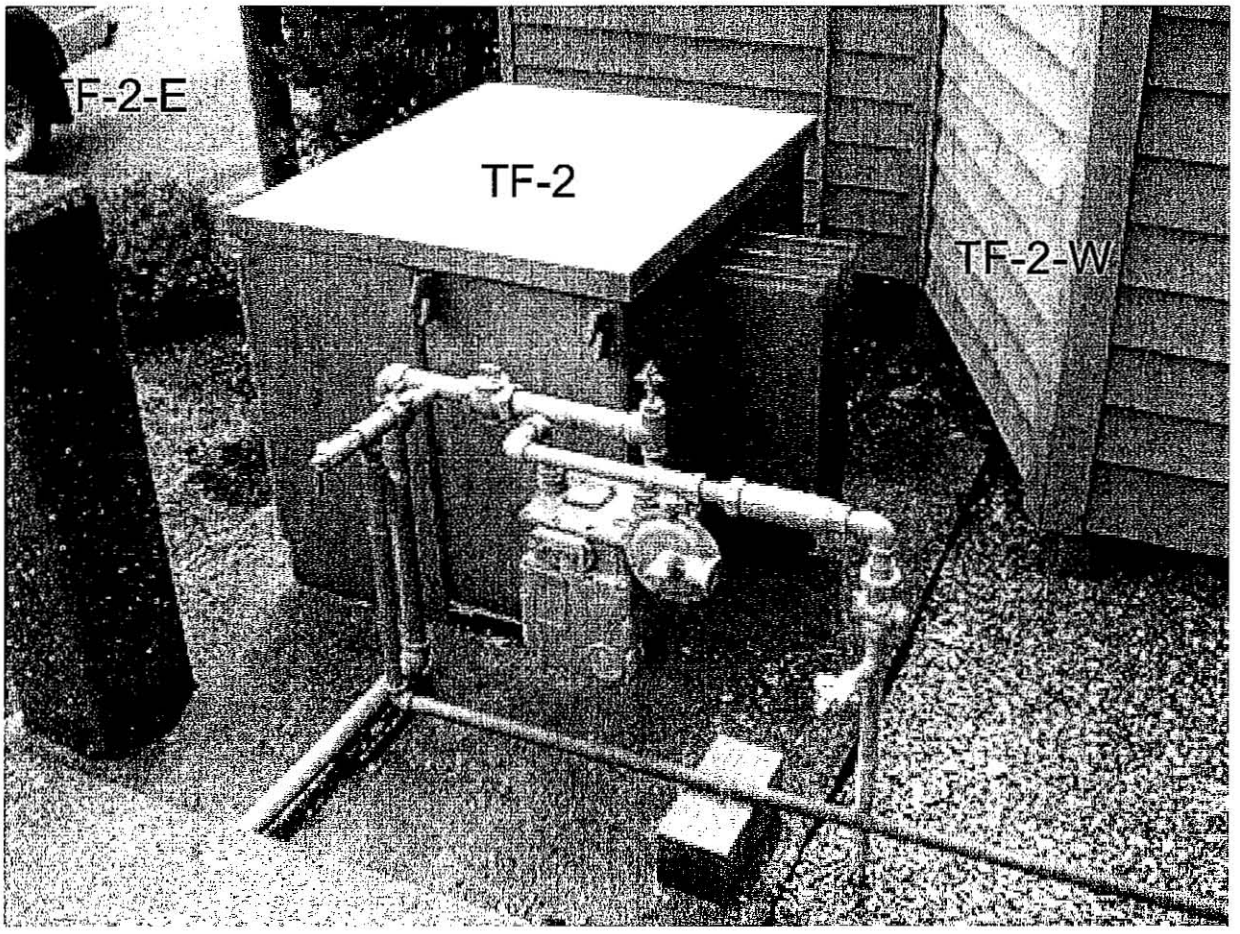

Photo 4: Transformer TF-2, facing south.

Appendix D
Data Validation Review

LABORATORY DATA REVIEW

BRIX Maritime

May 2005

This report presents a review of the samples collected from BRIX Maritime on May 5, 2005. Columbia Analytical Services, Inc. (CAS), in Kelso, Washington analyzed the samples. Laboratory SDG's K2503312 (CAS) was reviewed.

Data Qualifications

The following comments refer to the laboratory's performance in meeting the quality control (QC) specifications outlined in the analytical procedures and the Quality Assurance Project Plan (QAPP). Analytical results were reviewed using *USEPA National Functional Guidelines for Inorganics Data Review* (USEPA, 2004), and *USEPA National Functional Guidelines for Organics Data Review* (USEPA, 1999) as guidelines, and applying laboratory and method QC criteria.

The laboratory Sample Receipt Form states that the cooler temperatures were within ±4°C upon arrival at the laboratory. The samples were received in good condition and unfrozen. Sample transport and handling were acceptable.

Unless specifically noted in this report, laboratory results were within QC criteria.

Holding Times

All sample analyses were conducted within recommended holding times. No data were qualified due to these results.

Method Reporting Limits (MRLs)

The MRLs were acceptable. Samples BM-050505-7 and BM-050505-8 required dilution for gasoline range organics (GRO) and volatile organic compounds (VOCs).

Method Blanks

Method blanks were analyzed at the required frequency for all analyses. The method blanks were free of contamination. No data were qualified due to these results.

Trip and Field Blanks

Two trip blanks were submitted for this sample set. One trip blank was analyzed for GRO and the other for VOCs. No analytes were detected in the trip blanks.

Field Duplicates

One field duplicate pair was submitted, BM-050505-07 / BM-050505-08. Primary and duplicate results were comparable; no data were qualified.

Surrogate Recoveries

Surrogate recoveries were reported for all organic analyses. Surrogate percent recoveries were within the control limits.

Laboratory Duplicate Results

The laboratory analyzed duplicates at the required frequency. All lab duplicates were within acceptable RPD limits; no data were qualified due to these results.

Matrix Spike/Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were conducted at the required frequency. All MS/MSD and RPD results were within the control limits with the following exception. The manganese %R was above the control limits; however, the limits are not applicable due to very high sample results. No data were qualified.

Laboratory Control Sample Results

Laboratory control sample (LCS) analyses were conducted at the required frequency. All LCS results were within the control limits with the following exceptions.

- The LCS %R for 1,2,4-trimethylbenzene (62%) was below the control limits of 74-138%. Associated results (BM-050505-1,2,3,5,6) are qualified as estimated (J).
- The LCS %R for 4-isopropyltoluene (61%) was slightly below the control limits of 62-132%. No data were qualified as the percent recovery was only outsite the control limits by 1%.
- The LCS %R for n-butylbenzene (42%) was below the control limits of 51-138%. Associated results (BM-050505-1,2,3,5,6) are qualified as estimated (J).

Completeness

The results reported by the laboratory were checked against chain-of-custody entries to determine if all of the requested analyses were completed. All requested analyses were conducted.

Overall Assessment

The data are judged to be acceptable, as qualified.

REFERENCES

USEPA. 1986. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. EPA 530/SW-846.

USEPA. 2004. USEPA National Functional Guidelines for Inorganics Data Review. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. EPA 540-R-04-004. October.

USEPA. 1999. USEPA National Functional Guidelines for Organics Data Review. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. EPA 540/R-99/008. October.

LABORATORY DATA REVIEW

BRIX Maritime

May 2005

This report presents a review of the samples collected from BRIX Maritime on May 5, 2005. Columbia Analytical Services, Inc. (CAS), in Kelso, Washington analyzed the samples. Laboratory SDG's K2503314 (CAS) was reviewed.

Data Qualifications

The following comments refer to the laboratory's performance in meeting the quality control (QC) specifications outlined in the analytical procedures and the Quality Assurance Project Plan (QAPP). Analytical results were reviewed using *USEPA National Functional Guidelines for Inorganics Data Review* (USEPA, 2004), and *USEPA National Functional Guidelines for Organics Data Review* (USEPA, 1999) as guidelines, and applying laboratory and method QC criteria.

The laboratory Sample Receipt Form states that the cooler temperatures were within ±4°C upon arrival at the laboratory. The samples were received in good condition and unfrozen. Sample transport and handling were acceptable.

Unless specifically noted in this report, laboratory results were within QC criteria.

Holding Times

All sample analyses were conducted within recommended holding times. No data were qualified due to these results.

Method Reporting Limits (MRLs)

The MRLs were acceptable.

Method Blanks

Method blanks were analyzed at the required frequency for all analyses. The method blanks were free of contamination. No data were qualified due to these results.

Trip and Field Blanks

No trip blanks or field blanks were required for this sample set.

Field Duplicates

No field duplicates were submitted for this sample set.

Surrogate Recoveries

Surrogate recoveries were reported for all organic analyses. Surrogate percent recoveries were within the control limits.

Laboratory Duplicate Results

The laboratory analyzed duplicates at the required frequency. All lab duplicates were within acceptable RPD limits; no data were qualified due to these results.

Matrix Spike/Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were conducted at the required frequency. All MS/MSD and RPD results were within the control limits.

Laboratory Control Sample Results

Laboratory control sample (LCS) analyses were conducted at the required frequency. All LCS results were within the control limits.

Completeness

The results reported by the laboratory were checked against chain-of-custody entries to determine if all of the requested analyses were completed. All requested analyses were conducted.

Overall Assessment

The data are judged to be acceptable, without qualification.

REFERENCES

USEPA. 1986. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. EPA 530/SW-846.

USEPA. 2004. USEPA National Functional Guidelines for Inorganics Data Review. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. EPA 540-R-04-004. October.

USEPA. 1999. USEPA National Functional Guidelines for Organics Data Review. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. EPA 540/R-99/008. October.